Arthritis Survey in the Transkei and Ciskei

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SUMMARY

It has been said that rheumatoid arthritis is uncommon in Black people and is milder in its course than in Whites.

A preliminary survey of the prevalence of the disease among the Xhosa of the Transkei and Ciskei shows that rheumatoid arthritis does occur in these people and that the disease may be both severe in presentation and involve many joints.

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Rheumatoid arthritis is said to be uncommon among Black people. After epidemiological surveys undertaken among rural populations in South Africa, Liberia and Nigeria, the low incidence of this disease among the Black people has been confirmed. Rheumatoid arthritis in the South African Black apparently was not described before 1970.

Ingram Anderson in a paper presented at the third conference of the South African Rheumatism and Arthritis Association in Johannesburg in July 1972, diagnosed 23 Black patients suffering from this condition in a study over a 12-week period. At first he considered that the disease condition was different from that seen in Whites, inasmuch as it was milder in its course, tended to be remitting in character, and systemic involvement was rare, as was gross deformity. Radiological changes were unimpressive. Ankle pain or swelling was complained of in a significantly high proportion of cases. Seropositivity was found in 70% of his cases. However, 6 additional cases studied were quite different in that they presented with gross deformity, the disease advanced rapidly, and seronegativity was prominent.

Professor Beighton carried out an epidemiological survey among the Tswana people in the Western Transvaal. Clinical examination of 1 185 individuals was performed, radiographs of the hands and feet were obtained in 1088 cases, and blood specimens were drawn from 516 adults. A clinical diagnosis of probable rheumatoid arthritis was not reached in any patient, but 8 individuals had possible rheumatoid arthritis. Polyarthritis as observed in the hand radiographs was graded as 'mild' in 32 patients, 'moderate' in 18 and 'severe' in 7. No erosive changes were noted in radiographs of the feet. Owing to the problems inherent in a survey of this type, the ARA criteria for the diagnosis of rheumatoid arthritis were not applicable. However, when the Rome criteria for inactive rheumatoid arthritis were applied to these results, 2 males and 3 females had 'definite' rheumatoid arthritis, while 4 females and 1 male were regarded as 'probable' In terms of the patients aged 35 years and over, this represented a maximum prevalence of 2,8%. If the total population aged 15 years and over was considered, this figure became 1,2%.

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THE SURVEY

At the last TACRESOC Conference held in Tsolo, I suggested that an attempt be made to estimate the incidence of rheumatoid arthritis in the Transkei. A subcommittee was formed, and with the help of Professor P. Beighton, a *pro forma* was drawn up with 27 headings such as:

Sex	The condition of the joints such as pain, swelling, inflammation and deformity
Age	
Social status	
Physique	Which joints were affected
Duration of symptoms	The degree of disability
Drugs being taken	Joints which were X-rayed
Previous arthropathy	Serology
Previous joint trauma	Latex fixation test
Respiratory tract infection	Rose-Waller
Recent dysentery	Serum uric acid and ESR
Previous venereal disease	Joint aspiration
Recent virus disease	Biopsy
Concomitant disease	Observer's clinical diagnosis

Consultant's radiological diagnosis

These forms, after completion, together with radiographs, were to be despatched to me, acting as recorder of the survey.

Unfortunately, only 3 hospitals co-operated in the scheme: Glen Grey Mission Hospital, St Cuthbert's Hospital at Tsolo and the Nessie Knight Hospital at Sulenkama. Altogether 71 forms were received, but since 6 were unaccompanied by radiographs, only 65 cases were analysed.

Of the 65 patients in the survey, 16 were males and 49 were females. Their ages ranged from 8 to 80 years. Thirty were classed as 'rural', 27 'tribal' and 3 'urban'. The social status of 3 patients was not described in the *pro forma*.

Observer's Clinical Diagnosis

Nineteen patients were considered to have 'definite' rheumatoid arthritis, of whom 7 were classed as 'severe', 4 'moderate' and 8 'mild'. There were 8 'doubtful' cases of rheumatoid arthritis, 11 cases of tuberculosis of joints and 9 cases of osteo-arthritis. Six cases were considered to be suffering from rheumatic fever, 3 had pyogenic infections and 3 had viral arthropathy. The observer considered that there was 1 case of contusion of a joint (presumably traumatic synovitis) 1 case of gonococcal arthritis, 1 case of gonococcal arthritis, 1 case of syphilitic arthritis and 1 of transient arthritis. One case could not be diagnosed by the observer.

Radiology

Radiological diagnosis was based on the following points:

1. Soft tissue thickening, usually around small joints.
2. Subarticular demineralisation as a result of chronic hyperaemia.
3. Periosteal reactions of adjacent diaphyses.
4. Para-articular erosions corresponding to sites of attachment of inflamed synovium.

These four signs were indicative of early radiological changes. Later signs were:

1. Narrowing of the joint space resulting from destruction of articular cartilage by pannus formation.
2. Subchondral cysts.
3. Destruction of the joint with subluxation or dislocation.

Using these radiological criteria for establishing a diagnosis of rheumatoid arthritis, 16 cases were considered to be definite and there were 9 doubtful cases. Ten cases were considered to be due to tuberculous arthritis, 10 due to osteo-arthritis and 1 due to pyogenic infection. In 1 case there was an effusion in the joint with thickening of the synovial membrane. This could have been due either to tuberculosis or rheumatoid arthritis. A further case showed demineralisation of the bones around the knee, with subluxation of the tibia on the femur. Again this could have been due to rheumatoid arthritis or to tuberculosis. If one accepts these two as being due to rheumatoid arthritis, then 18 cases were diagnosed as suffering from rheumatoid arthritis based on radiographs.

In 1 case a bipartite patella was the only abnormality observed in the X-ray films of the knees. In my opinion the radiographs of 16 patients revealed no abnormality.

Of the 19 patients whom the clinical observer considered to be suffering from definite rheumatoid arthritis, 18 were females and only 1 was a male. There were 3 females under the age of 20 years, aged 12 years, 13 years and 16 years respectively. The majority of the patients were in the 50 - 60-year age group, but there were 2 patients aged 70 and 74 years respectively. The only male was 43 years of age.

Of the 8 doubtful patients, 7 were females aged 21 years to 65 years. There was 1 male aged 44 years.

DISCUSSION

I will now concern myself solely with the 19 cases with definite rheumatoid arthritis. Nine were tribal and 8 were rural. The social status of 2 cases was not stated. Symptoms were present in 2 patients for less than a week. In 5 patients, symptoms were present for between 1 and 4 months. Five patients had symptoms from 4 months to 1 year, and symptoms were present in 7 patients for more than a year. Eight patients had concomitant disease. Two had anaemia, 1 was suffering from urinary infection, 3 were suffering from cardiomyopathy, 1 had pulmonary tuberculosis and 1 other had both chronic pulmonary tuberculosis and cardiomyopathy.

All patients complained of pain in their joints. Fifteen had swelling of their joints, 7 had additional inflammation and 12 patients had deformity of the joints. Two patients were mildly disabled, 10 moderately so, and 7 had suffered severe disability.

In 1 patient only the hip joints were involved, in another only the hands and wrists, and in a third the right knee and ankle. In a fourth, one knee, both hands and wrists were affected, and in a fifth one ankle and both hands and wrists. In the remaining 14 patients, in addition to the hands and the wrists, several other joints were involved in varying combinations, such as the shoulders, elbows and knees or the spine, knees and ankles.

The sedimentation rate varied from 13 to 135 mm in the first hour. In one patient the sedimentation rate was not taken, in a second the sedimentation rate was only 13, and in a third it was 20 mm. In the remaining 16 patients the sedimentation rate varied from 54 to 135 mm.

The latex fixation test was positive in all but 2 patients. Their sedimentation rates were 108 and 110 mm in the first hour respectively. In all other respects they fulfilled the necessary criteria for making a diagnosis of rheumatoid arthritis.

CONCLUSIONS

It has been my impression during the 22 years that I have practised as an orthopaedic surgeon in East London and King William's Town, that very few Black patients suffering from rheumatoid arthritis attend the orthopaedic clinics at these two centres, and that when rheumatoid arthritis is seen in a Black patient, the disease is severe, involves many joints, is rapid in progress, is associated with a high sedimentation rate, almost invariably involves the wrists and finger joints, and produces marked deformity and disability. Impressions, however, are of little scientific value — in fact, they can be most erroneous. While this article is but a preliminary and far from complete investigation into the incidence of rheumatoid arthritis among the Xhosa-speaking peoples of the Transkei, it does, however, lend some substance to my clinical impressions. In 7 (or 37%) of the 19 patients, symptoms had only been present for less than 4 months, and in 12 (or 63%) of the 19 patients, symptoms had been present for less than a year. In 58% of the cases studied, the disease was severe or moderately severe.

The survey which has been carried out to date is of a very limited nature and one would be foolhardy to draw too many conclusions from the information available. If nothing else, this survey shows that rheumatoid arthritis does occur in the South African Black, and the disease, when it occurs, may be severe in presentation, involving many joints. Further and more profound studies into the prevalence of rheumatoid arthritis among the Xhosa of the Ciskei and Transkei are called for.

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